

OPTIMIZATION OF CLASS SCHEDULING UNDER DEMAND UNCERTAINTY

ABSTRACT OF THE DISCLOSURE

A stochastic integer programming based constrained optimization
5 technique enables optimal allocation of classrooms and instructors to
requested classes associated with cancellation probabilities. An analytical tool
allows optimization of overall operational revenue/profit under different
planning scenarios involving chaining of various classes, prerequisite
relationships, and inter-class spacing requirements. This system allows the
10 description and input of a list of classes, their cancellation probabilities and
the input of available classrooms and instructors for determining the most
revenue-generating/profitable class schedule. The revenue/profit optimization
model corresponds to a two-stage mixed integer program.